
Constructed Wetland at NAB Little Creek Treats Stormwater Pollution

On December 4, 1996, a group of Navy personnel attending the 1996 Department of the Navy (DON) Environmental Manager's Meeting in Norfolk, Virginia, toured the newly constructed wetland at the Naval Amphibious Base (NAB), Little Creek. The wetland was constructed in partnership with the Naval Facilities Engineering Service Center (NFESC), Port Hueneme, California, the Virginia Institute of Marine Science, the Naval Facilities Engineering Command Atlantic Division (LANTDIV), and local regulators. This wetland is the first of its kind at a Navy installation. The constructed wetland (approximately one acre), built in an upland site on the south side of Little Creek Cove, will be used as a research platform to study a wetland's ability to remove contaminants from stormwater runoff. While most constructed wetlands are freshwater, this system is tidally controlled with brackish water.

The U.S. Environmental Protection Agency (U.S. EPA) has shown that more than a third of the Nation's waters are too polluted for basic uses such as swimming and fishing. They attribute this primarily to contaminated stormwater runoff entering the body of water either through sheet flow (which is a non-point source) or direct input through a storm drain pipe (point source). Contaminants from non-point sources can be highly variable and may include pesticides, metals, oils, nutrients, suspended solids and other substances. Despite engineering controls used at point sources to remove contaminants, the water quality of many lakes, rivers, and oceans remains poor because of this difficulty in removing non-point source contaminants.



Constructed tidal wetlands, NAB Little Creek, VA.

An alternative solution to this problem is to use wetlands to treat stormwater runoff. Wetlands have the ability to naturally remove contaminants from stormwater runoff in several ways. Wetland plants filter and uptake many contaminants; heavy metals can be bound up in wetland soils; or microscopic organisms can remove and decompose petroleum hydrocarbons and similar compounds.

The tidal wetland project at Little Creek was constructed as a field demonstration and will be monitored extensively to show how effective this type of wetland system is at treating stormwater runoff. This technology can be applied to other Naval installations throughout United States. This region will help the Navy reach its goals to reduce toxics and non-point source pollutants into the Chesapeake Bay.

For more information, please contact:

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